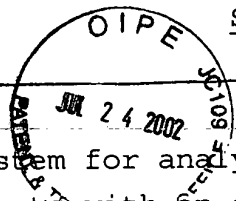


Claims for Entry During Prosecution of U.S. Patent Application

Serial No. 10/008,600



15. A system for analyzing sample liquids by evaluating test elements with an analytical unit in which a test element to be analyzed is positioned by a holder in an analytical position relative to the analytical unit and the system additionally comprises a position control unit to check whether an analytical area of the test element is correctly positioned relative to the analytical unit wherein the position control unit comprises:
- (a) a light source to irradiate an area of the test element,
  - (b) a detector to detect light reflected from the area and
  - (c) an evaluation unit, wherein the light source and detector are positioned relative to one another in such a manner that the light intensity of specularly reflected radiation at the detector when the test element is correctly positioned is different from a light intensity when it is incorrectly positioned and the evaluation unit is adapted to recognize any faulty positioning on the basis of the light intensity at the detector.
16. The system of claim 15, in which the light source and detector are arranged relative to one another in such a manner that when the test element is correctly positioned, specularly reflected radiation falls on the detector and the proportion of specularly reflected radiation decreases when a faulty positioning occurs.
17. The system of claim 15, in which the light source and detector are arranged relative to one another in such a

manner that when the test element is correctly positioned, the proportion of radiation specularly reflected from the test element is small or zero and is larger when the test element is incorrectly positioned.

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18. The system of claim 15, in which the analytical unit is used to irradiate the analytical area and the concentration of an analyte is determined on the basis of the radiation reflected from the analytical area or transmitted through the analytical area.
  19. The system of claim 18, in which the analytical unit uses the detector of the position control unit to detect radiation.
  20. The system of claim 18, in which the analytical unit uses the light source of the position control unit to irradiate the analytical area.
  21. The system of claim 15, in which the test element is deformable along its longitudinal axis, is held in an area at one end of the axis by a holder and the analytical area is at a distance from said one end of the axis such that a faulty positioning of the analytical area relative to the analytical unit occurs when the test element is bent along its longitudinal axis.
  22. The system of claim 15, in which the analytical unit has a measuring light source and a control unit sequentially actuates the measuring light source and the light source of the position control unit.

23. The system of claim 22, in which the measuring light source irradiates the analytical area below an angle of  $\alpha$  and the light source of the position control unit irradiates the analytical area below an angle of  $\beta$  relative to the normal plane whereby  $\alpha < \beta$ .
24. The system of claim 15, in which the position control unit comprises a second light source which is positioned relative to the detector in such a manner that at the detector the light intensity of this radiation reflected from the test element changes inversely to the light intensity of the light source for position control when the test element is moved away from its correct position.
25. The system of claim 16, in which the proportion of specularly reflected radiation of the light source for position control decreases at the detector when a faulty positioning occurs.
26. A method for analyzing sample liquids comprising evaluating test elements using an analytical unit in which a position control unit is used to check whether an analytical area of the test element is positioned correctly relative to the analytical unit, irradiating an area of the test element by a light source, detecting radiation reflected from the area, and recording a signal generated by the detecting step to check the position of the analytical area wherein the light source and detector are positioned relative to one another in such a manner that the intensity of radiation reflected from the test element and detected is different when the analytical area is correctly positioned than the intensity when it is incorrectly positioned.

27. The method of claim 26, in which the analytical unit has a separate light source and a detector is used for the detecting step and the light source of the position control unit is actuated at a time point  $T_K$  and the light source of the analytical element is actuated at a time point  $T_A$  and the position of the analytical area is checked on the basis of the signal generated by the detector at time point  $T_K$  and an evaluation to determine the concentration of an analyte is carried out based on the signal generated at time point  $T_A$ .

28. The method of claim 27, in which the time points  $T_K$  and  $T_A$  are less than one second apart.

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